

LISTING OF CLAIMS

Please amend the claims as indicated in the following listing of the claims, which replaces all prior versions thereof.

1. (Currently Amended) A radio receiver apparatus in receipt of a spread spectrum radio signal having a first signal tracking channel and a second signal tracking channel, comprising:
 - a demodulator that demodulates a first signal in the spread spectrum radio signal into the first signal tracking channel and a second signal in the spread spectrum radio signal into the second signal tracking channel;
 - a crosscorrelator connected to the first signal tracking channel and the second signal tracking channel;
 - a first signal processor that ~~identify~~ identifies a carrier wave jamming signal with the crosscorrelator that is in a mode to identify carrier wave jamming signals by correlation with a fixed predetermined code for a pseudo random number (PRN) code, where the crosscorrelator has a code of all ones for the PRN code;
 - a first tracker that tracks the carrier wave jamming signal; and
 - a first signal canceller ~~that~~ subtracts the a replica of the carrier wave jamming signal from the spread spectrum signal and generates a resultant spread spectrum signal;
 - a second tracker that tracks the resultant spread spectrum signal;
 - a second signal canceller that subtracts the resultant spread spectrum signal from the tracked carrier wave jamming signal and produces a clean carrier wave jamming signal; and
 - a second signal processor connected to the first and second signal cancellers that receives the clean carrier wave jamming signal from the second signal canceller and generates the replica of the carrier wave jamming signal from the clean carrier wave jamming signal.

2. (Currently Amended) The radio receiver apparatus of claim 1, ~~where the signal canceller further includes: wherein the second~~ a signal generator that generates a replica carrier wave jamming signal having a phase from the carrier wave jamming signal having another phase and subtracts the replica carrier wave jamming signal from the spread spectrum signal to cancel the carrier wave jamming signal.

3. (Currently Amended) The radio receiver apparatus of claim 2, further includes comprises:
a signal rotator that rotates the phase of the replica carrier wave jamming signal.

4. (Currently Amended) The radio receiver apparatus of claim 3, where wherein the signal rotator adjusts the phase of the replica carrier wave jamming signal to match the other phase of the carrier wave jamming signal in the spread spectrum signal.

5. (Canceled)

6. (Original) The radio receiver apparatus of claim 1, wherein the spread spectrum radio signal is a position signal.

7. (Original) The radio receiver apparatus of claim 1, wherein the crosscorrelator is at least a 1024 bit wide correlator.

8. (Currently Amended) The radio receiver apparatus of claim 7, where the crosscorrelator further includes ~~comprises:~~
an at least one a 1024 bit wide match filter.

9. (Currently Amended) A method of removing a carrier wave jamming signal from a spread spectrum signal having a first signal tracking channel and a second signal tracking channel, comprising:

demodulating a first signal in the spread spectrum radio signal into the first signal tracking channel and a second signal in the spread spectrum radio signal into the second signal tracking channel;

correlating the first signal tracking channel and the second signal tracking channel with a crosscorrelator;

changing the crosscorrelator from a cross correlation identification mode to a carrier wave jamming signal identification mode where the crosscorrelator correlates in the carrier wave jamming signal identification mode with a fixed predetermined code for a pseudo random number (PRN) code;

configuring the crosscorrelator with a code of all ones for the PRN code;

computing a product of the first signal tracking channel and the second signal tracking channel to obtain a carrier wave jamming signal;

tracking the carrier wave jamming signal; and

canceling the carrier wave jamming signal from the spread spectrum signal;

generating a resultant spread spectrum signal;

tracking the resultant spread spectrum signal;

canceling the resultant spread spectrum signal from the tracked carrier wave jamming signal;

producing a clean carrier wave jamming signal; and

generating the replica of the carrier wave jamming signal from the clean carrier wave jamming signal.

10. (Currently Amended) The method of claim 9, where canceling further includes comprising:

generating a replica carrier wave jamming signal having a phase from the carrier wave jamming signal having another phase; and

subtracting the replica carrier wave jamming signal from the spread spectrum signal to cancel the carrier wave jamming signal.

11. (Currently Amended) The method of claim 10, further includes comprising:
rotating the phase of the replica carrier wave jamming signal.

12. (Currently Amended) The method of claim 11, further includes comprising:
adjusting the phase of the replica carrier wave jamming signal to match the other phase of the carrier wave jamming signal in the spread spectrum signal.

13. (Canceled)

14. (Original) The method of claim 9, wherein the spread spectrum radio signal is a position signal.

15. (Original) The method of claim 9, wherein the crosscorrelator is at least a 1024 bit wide correlator.

16. (Currently Amended) The method of claim 15, ~~where~~ wherein the crosscorrelator further includes comprises:

filtering with an at least a 1024 bit wide match filter.

17. (Currently Amended) A receiver in receipt of a spread spectrum radio signal having a first signal tracking channel and a second signal tracking channel, comprising:

demodulation means for demodulating a first signal in the spread spectrum radio signal into the first signal tracking channel and a second signal in the spread spectrum radio signal into the second signal tracking channel;

correlation means for correlating the first signal tracking channel and the second signal tracking channel;

computation means for computing a product of the first signal tracking channel and the second signal tracking channel to obtain a carrier wave jamming signal, when the correlation means is in a carrier wave jamming identification mode by correlating with a fixed predetermined code for pseudo random number (PRN) code;

means for configuring the correlation means with a code of all ones for the PRN code;

means for tracking the carrier wave jamming signal; and

canceling means that cancels the carrier wave jamming signal from the spread spectrum signal;

means for generating a resultant spread spectrum signal;

means for tracking the resultant spread spectrum signal;

means for canceling the resultant spread spectrum signal from the tracked carrier wave jamming signal;

means for producing a clean carrier wave jamming signal; and

means for generating the replica of the carrier wave jamming signal from the clean carrier wave jamming signal.

18. (Currently Amended) The receiver of claim 17, ~~where~~ wherein cancellation means further ~~includes~~ comprises:

generating means for generation of a replica carrier wave jamming signal having a phase from the carrier wave jamming signal having another phase; and

subtracting means for subtraction of the replica carrier wave jamming signal from the spread spectrum signal to cancel the carrier wave jamming signal.

19. (Currently Amended) The receiver of claim 18, further ~~includes~~ comprising:
means for rotating the phase of the replica carrier wave jamming signal.

20. (Currently Amended) The receiver of claim 19, further ~~includes~~ comprising:
means for adjusting the phase of the replica carrier wave jamming signal to match the other phase of the carrier wave jamming signal in the spread spectrum signal.

21. (Canceled)

22. (Previously Presented) The receiver apparatus of claim 17, wherein the spread spectrum radio signal is a positioning signal.

23. (Previously Presented) The receiver of claim 17, wherein the correlation means is at least a 1024 bit wide correlator.

24. (Previously Presented) The receiver of claim 23, where the correlation means further includes:

an at least a 1024 bit wide match filter.